Komplexe zouten van trans-1-2-diaminocyclohexaan met driewaardig rhodium en kobalt

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n-kobaltizout zou der-

aarin een overzicht der
zoek gegeven wordt en
de resultaten, verkregen
ende methoden tot het
zulke komplexe ionen,

n de komplexe tri-diamino-ionen
en rhodium.

de	*c*) Schijnbaar absolute configuratie, in verband met de rotatorische dispersie en het circulair dichroïsme.	
he	Soort van rotatorische Dispersie	Teeken v. h. Cotton-effekt
l	*D*-{*Co*(*en*)$_3$}$^{\cdots}$	+
	,,	+
	,,	+
aal	*L*-{*Co*(*en*)$_3$}$^{\cdots}$	−
	D-{*Co*(*en*)$_3$}$^{\cdots}$	+
	,,	+
aal	*D*-{*Co*(*en*)$_3$}$^{\cdots}$	+
	,,	+
	,,	+

en *L* beteekenen hier dus weer resp.
oode deel van het spectrum; enz.

SUMMARY.

Some complex salts of *trans-1-2-diaminocyclohexane* with trivalent *cobaltum* and *rhodium* were prepared and their properties described in detail.

Diaminocyclohexane was obtained by the following series of reactions: *cyclohexanone* → *cyclohexanone-1-oxalylicester-2* → *cyclohexanone-1-carboxylicester-2* → *cyclohexanedione-1-2 monoxime* → *cyclohexanedione-1-2 dioxime* → *1-2-diaminocyclohexane.*

The compound was resolved into its optically-active components by means of *d-tartaric acid.* The complex salts of *racemic-, dextrogyratory-* and *levogyratory diaminocyclohexane* with trivalent *cobaltum* and *rhodium* were studied. The complex salts of *racemic diaminocyclohexane* with *cobaltum* and *rhodium* were subsequently resolved into their optically active components by means of the *halogeno-d-tartrates.* These components proved to be identical with the complex salts directly obtained from the optically active bases.

The crystallographic properties of all these complex salts were determined and their rotatory dispersions in aquous solutions were measured.

Amongst all theoretically possible combinations only the ions

$$D\text{-}\{Me\text{-}(l\text{-}Chxn)_3\}^{\cdots},\ L\text{-}(Me\text{-}(d\text{-}Chxn)_3\}^{\cdots}$$

and $\{Me(r\text{-}Chxn)_3\}^{\cdots}$ proved to be stable. All other combinations imaginable are unstable and in solution evidently decomposed according to the formula:

$$3\left\{Me\begin{matrix}(d\text{-}Chxn)_2\\(l\text{-}Chxn)\end{matrix}\right\}^{\cdots} \rightarrow 2\{Me(d\text{-}Chxn)_3\}^{\cdots} + \{Me(l\text{-}Chxn)_3\}^{\cdots}$$

$$\rightarrow \underbrace{[\{Me(d\text{-}Chxn)_3\}^{\cdots} + \{Me(l\text{-}Chxn)_3^{\cdots}\}]}_{\text{racemic compound.}} + \{Me(d\text{-}Chxn)_3\}^{\cdots}$$

Moreover, tentatives were made to prepare mixed complex salts with different substitutes, as, for instance, $\left\{Co\begin{matrix}(r\text{-}Chxn)_2\\(en)\end{matrix}\right\}Cl_3$. These complex salts also proved to be unstable and, in solution, to be decomposed according to the formula:

$$3\left\{Me\begin{matrix}X_2\\Y\end{matrix}\right\}^{\cdots} \rightarrow 2\{MeX_3\}^{\cdots} + \{MeY_3\}^{\cdots}$$